

Artist's Impression

L&T Innovative Campus, Chennai

OTHERS

'Others' business comprises:

- a. Realty Business
- b. L&T Valves Limited
- c. Construction Equipment & Others
- d. Smart World & Communication
- e. Digital Businesses

REALTY BUSINESS

Overview:

L&T Realty is positioned amongst the top real estate developers in India, with a total portfolio of over 70 mn. sq. ft. across residential, commercial and retail segments

in key metro cities, viz. Mumbai, Bengaluru and Chennai. L&T Realty is focused on delivering higher value to its customers through efficient designs, latest technologies and superior project management skills. The business model also includes development in partnership with owners of large land banks, other developers and sale / lease of commercial spaces.

Residential Segment

Emerald Isle (Mumbai)

This flagship residential project, the finest gated community at a premium location, is part of a prime real estate development in Powai, spanning over 90 acres. Phase I is complete and is now occupied by over 780 resident families. The development of further phases of the project is in progress.

Crescent Bay (Mumbai)

Situated at a sought-after location – Parel, with the Arabian Sea as the backdrop – Crescent Bay is a residential complex with the perfect setting for an exclusive lifestyle. Crescent Bay raises urban living to top-notch quality, with a sky deck and lifestyle amenities on level 21. It is currently occupied by 1000+ resident families and the last tower is being built.

Raintree Boulevard (Bengaluru)

Conceptualised on the live-work-play theme, Raintree Boulevard is a 65-acre mixed-use project located in the high-growth micro-market of Hebbal. The project offers

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Seawoods Grand Central, Navi Mumbai

premium flats with elegant and majestic layouts, along with the leisure of fine-living and best-in-class amenities. The project also includes fully furnished studio units, a dire need of young IT professionals in Bengaluru. 250+ happy families have already moved in.

Seawoods Residences (Navi Mumbai)

Seawoods Residences is part of India's first Transit-Oriented Development, which is spread across 40 acres. The project offers unmatched connectivity and is surrounded by breath-taking views. It has been a successful launch, with over 90% units sold out.

Rejuve 360 (Mumbai)

Designed on the wellness thought, this residential complex is focused on the rejuvenation of mind, body and soul. Conveniently located in the bustling neighbourhood of Mulund, Mumbai, Rejuve 360 has sustained its position among most premium products in the micro-market.

Commercial Segment

Seawoods Grand Central (Navi Mumbai)

India's first Transit-Oriented Development (TOD), Seawoods Grand Central is spread across 40 acres. It offers 2.6 mn. sq. ft. of Grade A development with a unique combination of commercial and retail business spaces coupled with the captive local train station. The office space here is spacious, well-planned and customisable.

Technology Centre (Mumbai)

Designed to provide superior workspaces, it is a thoughtfully designed and LEED-Rated Gold Building. It is a part of a larger integrated development promoting walking to work. It is one of the coveted corporate addresses in Powai, Mumbai, with proximity to excellent social infrastructure. Much of this development is already completed and some has been effectively divested.

Technology Park (Bengaluru)

Located in the rapidly growing micro-market of Hebbal, the project has the potential for development of commercial office spaces of 3.3 mn. sq. ft., which is being taken up in phases. With unmatched connectivity and well-designed spaces, it is set to become the most favoured address for many technology companies.

L&T Innovation Campus (Chennai)

Coming up on a 40-acre plot in the IT hub of Chennai, the 6.5 mn. sq. ft. L&T Innovation Campus project will be developed in phases. It will bring together a world-class innovation business / IT hub, and an eclectic mix of leisure and lifestyle amenities, with a lush central parkland at its core. The development offers the walk-to-work convenience.

Business Environment

The Covid-19 pandemic impacted the economy adversely, including the real estate sector. The year bestowed



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Raintree Boulevard, Hebbal, Bengaluru

opportunities for businesses to re-align and create propositions that will have a long-lasting impact on the economic landscape. While businesses traversed through a tough and uncertain year, the Government was supportive and took several measures to keep the economy buoyant.

The residential segment witnessed a dip of 40% in new launches and sales during FY 2020-21. The sales momentum resumed from the third quarter with historically low home-loan rates, signs of the economy recovering faster, and steps taken by the Government, such as stamp-duty waiver in Maharashtra. Sales sharply recovered in the last quarter, exceeding the last year's bookings.

The office space segment has been severely impacted, as leasing has dipped by over 40% over the previous year, with leasing in the top 7 cities being only 26 mn. sq. ft. vis-à-vis 46 mn. sq. ft. in the previous year. Adoption of Work from Home by most companies coupled with the deferment of large leasing decisions by international and domestic clients weakened the sentiment towards this segment. The commercial office space segment is expected to take a longer time to recover.

The retail segment was the worst hit on account of the lockdown and the inability of tenants to pay-out leases. Apprehension regarding the recovery of this segment has led to renegotiation of leasing contracts into the revenue share model.

FY 2020-21 paved the way to an encouraging outlook for the Real Estate Investment Trust (REIT), which is aimed at attracting private investments. Despite the pandemic, during the year, the two REITs listed received an overwhelming response, proving the market and investor confidence for the long-term in the real estate sector.

The Government on its part, has introduced various fiscal measures and policy reforms for the early recovery of the sector. Out of the total private equity investment in India, real estate attracted USD 4.2 Bn this year. In the face of the unprecedented pandemic crisis, the real estate sector, especially the residential segment, has displayed remarkable resilience. As the unlocking process was initiated in the second quarter of FY21, both the residential and office markets started showing promising signs of revival.

The pandemic has further worsened the financial position of most real estate developers. This, coupled with customers now preferring reputed corporate brands, offers a better competitive positioning for L&T Realty.

Major Achievements

1. Launched new phase at Seawoods Residences in November '20 and sold over 80% of the inventory.
2. As workplace merges with home, large-size units gained momentum. Traction is seen in large format premium units in Crescent Bay, Parel, placing the business.

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L&T Tech Park, Bengaluru

amongst the most-sold projects in the premium South Mumbai market.

3. Completion of an iconic digitally advanced office space tower.
4. Completed sale of commercial space through transactions with Blackstone Group and Max Life.

Awards and Recognition

The business has been conferred many national and international awards for the brand as well as for individual projects during the year. A few of them are listed below:

- Winner of 'Swatch Bharat Mission' by Navi Mumbai Municipal Corporation for Seawoods Residences
- Royal Society for the Prevention of Accidents (ROSPA) Gold award for Emerald Isle, Powai and AM Naik Tower
- Acknowledging the continuous effort towards safety, British Safety Council, UK, awarded the Realty business the Sword of Honour
- Appreciation certificate from National Safety Council
- Appreciation certificate from Construction Industry Development Council, Vishwakarma Awards
- Recognised by *Economic Times* as one of the 'Best Realty Brands 2020-21'

Significant Initiatives

Digitalisation

In digital, the business focuses on further improvement of Safety, Quality and customer experience. The 'SHIELD' app was launched to report unsafe conditions, issue of work permits, etc. A mobile-based quality inspection app under the 'SQAD' initiative has been implemented to digitally monitor checklists and drive more accountability. To provide a better customer experience at every touchpoint, the salesforce ecosystem for Digital Marketing, Sales and Customer Relationship Management (CRM) has been implemented and is complemented by deploying augmented reality solutions and digital flipbooks. The adoption and implementation of remote working during pandemic time was crucial for the business and many aspects of digital infrastructure were already in place. Critical measures were taken to further strengthen the security infrastructure as data flow increased online.

Innovation

The business strives for innovation and engineering excellence in every project. Emerald Isle features the first residential building in Mumbai executed with pre-fabricated on-demand concepts, leading to reduction in finishing time as well as delivery of a customised quality product.

Human Resources

Appropriate measures were taken during business resumption to ensure employees' health and safety



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Seawoods Residences, Navi Mumbai

within the site and at the office premises. The business makes every effort to generate a never-ending desire to collaborate, learn and build a talent pool to stay relevant to customers' needs at all times. The business is focused on creating a young and vibrant organisation. With emphasis on gender diversity, L&T Realty has one of the highest percentage of women employees in the Indian real estate sector.

The company has been providing avenues for capability building and continuous learning, and this year the business clocked 7,552 man-hours of dedicated personnel training.

Risks and Concerns

The real estate sector had just begun to recover from the after-effects of Covid-19, with business activities gaining pace and the Indian economy expected to rebound considerably in FY 2021-22. However, the second wave of the pandemic is likely to delay recovery. The intermittent lockdowns will impact demand. The short-term waivers and relaxations offered by the Government have been discontinued, despite the lingering threat of the pandemic. The delivery timelines may also get affected with another phase of workforce reverse-migration and the ensuing delayed construction schedules. Large investment decisions for office space had started to return, but increasing spread of the virus has led to increased preference for Work from Home, resulting in major corporates postponing the decisions on expansion plans and capital expenditures.

Outlook

Real estate is currently ~6.3% of GDP and is projected to touch 12% by 2030, making it USD 1 Tn in market size. In the longer run, the demographic shifts and demand in the upper mid- and high-income households will increase many-fold.

The residential segment, which constitutes 80% of the sector in India, bottomed out in 2020, but is now ready to embark on a new growth journey. Despite the launches and sales being short of last year, the trend of sales outnumbering the launches eventually pulled down the unsold inventory pan-India. The Mumbai Metropolitan Region recorded the highest year-on-year decline of unsold inventory by 8% in the last seven years. The low mortgage rates have improved the affordability index in key cities, bringing back customer confidence. The pandemic has also fuelled the trend of owning a bigger home and living in a gated development with adequate amenities.

In pre-Covid times, the commercial segment was largely dependent on foreign corporations for the annual absorption of a large part of the office space. Many of the large corporates adopted Work from Home, putting a hold on their expansion or office consolidation plans. With employee fatigue due to Work from Home and with offices adopting alternative strategies, viz. satellite offices, consolidation in peripheral parts of cities etc., commercial office leasing and sales is slowly gathering pace.



HIPPS (High Integrity Pressure Protection System) prevents catastrophic over-pressurisation and release of toxic flammable fluids

In the post-Covid-19 business scenario, the reputation and execution capability of the developer will become even more important. Prominent organised developers, such as L&T Realty, who adopted a customer-centric approach, will emerge stronger, and another wave of consolidation will gather pace.

■ L&T VALVES LIMITED

Overview:

L&T Valves (LTVL) is a leading manufacturer of industrial valves and has a global customer base. The business leverages sixty years of manufacturing excellence to serve key sectors, such as oil & gas, defence, nuclear & aerospace, power, petrochemicals, chemicals, water, and pharmaceuticals, across the globe. LTVL manufactures a wide range of products such as gate, globe, check, ball, butterfly and plug valves and automation solutions. With a large installed base across countries, L&T Valves also runs a robust after-market business to support its customers in their service and spares needs.

The business has a global manufacturing presence, with two state-of-the-art facilities in Tamil Nadu, India and two facilities set up in the USA and Saudi Arabia. LTVL products deliver safety, reliability, and quality for industries across the world.

Business Environment

The business environment was affected due to the Covid-19 pandemic. The operations were impacted in the first quarter and were restored to normalcy in Kancheepuram from 6th May '20 and in Coimbatore, from 1st June '20.

The business uncertainty due to the pandemic led to delays and deferrals in investment decisions, affecting the order inflow. There was also deferral of maintenance and repair activities in the oil & gas sector as major customers had implemented workplace restrictions.

Though capacity addition in thermal power remains muted, capex in the areas of emission control is a primary focus. The second half of the financial year hinted at an economic recovery. Liquid fuel demand is on a recovery path and is inching towards pre-Covid levels.

LTVL has been able to mitigate the effects of the pandemic with its wide customer portfolio spanning across industries and geographies. The entity has been able to leverage its large distribution network in these unprecedented times.

Major Achievements

Major Orders Received:

The business made focused efforts to build its order book during the pandemic year. Focus on delivery and increased



Range of actuated Ball and Butterfly Valves for process as well as aerospace applications

customer engagement have helped the business to maintain customer confidence. The major orders include valves for:

- Kuwait Oil Company's 11 pattern project from SHBC
- Mabrouk North East Development Project from Petrofac
- Kandla Gorakhpur Pipeline Project from IHB (JV of IOCL, HPCL and BPCL)
- Remotely-operated shut-off valves, tank farm terminals, IOCL
- Hawiyah Unayzah Gas Reservoir Storage Project from ARAMCO

Major Product Milestones:

During the year, the business, through its technical expertise, made the following higher size and class product achievements to meet customer requirements:

- 80" and 56" PN25 butterfly-type shut-off valve
- 52" Class 300 CF8M triple offset butterfly valve
- 34" Class 600 damper check valve
- 12" Class 2500 WC6 gate valve

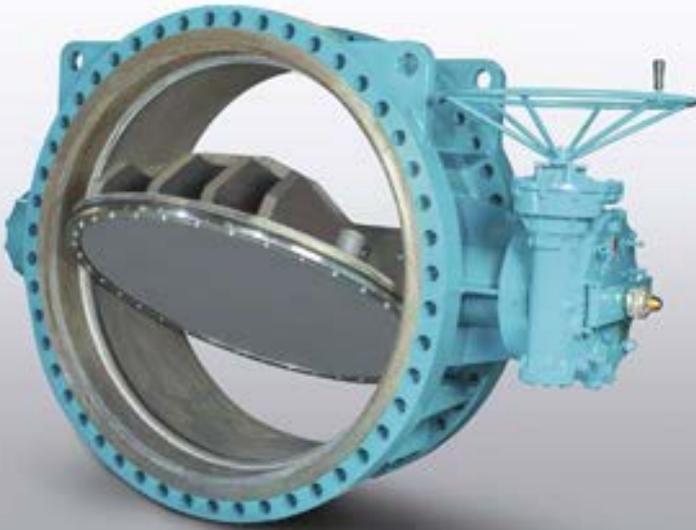
Major Product Developments:

To serve the arising market requirements in the areas of safety and emission standards in energy, the business made following product developments:

- Bolted bonnet gate valves with Inconel 625 overlay on body internals for sour service applications
- Forged steel small-bore globe and check valves for cryogenic service
- Low-emission ball valves with special seals for propylene service
- High Integrity Pressure Protection System (HIPPS) with pneumatic actuated trunnion-mounted ball valve, pressure transmitter manifold and solid-state logic solver
- Hull ventilation valves
- Large-size high-pressure butterfly valves for wind-tunnel application

Approval / Certifications:

The business made significant efforts to improve its approvals and certifications and gained fresh approvals



Large-size Butterfly Valves for aerospace and hydrocarbon applications

in the following areas to enhance its market area and customer base:

- CE-PED certification for API 603 and API 6D top entry design for Kancheepuram and Coimbatore facilities
- Certification from M/s Thermax Babcock & Wilcox for Coimbatore facility
- ARAMCO additional approval for cryogenic ball valves for Kancheepuram Facility
- API 609 & API 594 monogram certification for Coimbatore facility

Significant Initiatives

LTVL made significant efforts to improve its internal processes and working efficiency to improve working capital, customer satisfaction and lead time. Key efforts include:

- Taskforce formed for liquidation of overdue orders and improved on-time delivery
- Introduction of lean concepts to improve machine utilisation and productivity
- Vendor consolidation in casting supplies to implement kitting strategy plan

- Vendor development for special castings and gear box to realise cost benefits
- Geographical diversification of supply chain with focus on cost and quality

Digitalisation

During FY 2020-21, a dedicated digitalisation team was formed with a focus on exploring usage of advanced digitalisation technologies for the effectiveness and efficiency of existing processes such as:

- Tracking of raw materials with Global Navigation Satellite System (GNSS)
- Datasheet decoding using Natural Language Processing (NLP)
- Monitoring of machine's Overall Equipment Effectiveness (OEE) using the Internet of Things (IoT) to identify areas of improvement and improve OEE

Environment, Health and Safety

Environment, Health and Safety (EHS) are at the core of operations and LTVL remains committed to achieving EHS excellence at its workplaces. The business has successfully implemented initiatives in health, safety and environment, continuing to achieve a 'zero man-days lost' record during the year.



Setting new benchmarks in size, pressure rating and customer satisfaction. 72" Gate Valve and #2500 Ball Valve

- Tree plantation drive at Coimbatore plant and 100 trees planted in the plant area.
- Reduction of water consumption in the plant by utilising biologically-treated domestic waste-water for gardening.

Human Resources

Special emphasis has been laid on employee health, well-being and safety, in addition to training and development during this year. The business has evolved its competency building programmes and focused on soft skills and leadership development.

Various engagement initiatives were undertaken during the lockdown to motivate the employees and maintain a healthy work-life balance when they were in remote working mode. The change- management flagship programme 'DISHA' strives to make the organisation a better place to work in and improve the effectiveness of the employees at the workplace. Developmental initiatives through training, mentoring and coaching programmes were organised to upskill high-potential employees.

Risks and Concerns

The market remains highly fragmented and has become more competitive with the changing market dynamics. Though delayed project awards to EPCs have hurt the order book of the industry, the Company, with a good mix of

direct and distribution customers and a pipeline of new business prospects, is confident of improving its order book.

While manufacturers are trying to improve their order book, customers are trying to save costs due to reduced maintenance spend. This has resulted in price pressure in the market during the pandemic year. The revival of the automobile, construction and retail sectors in India and the change in market dynamics in the international steel market have led to an increase in steel prices, and added to the cost pressures of the business. Though this is expected to hurt margins, the Company aims to reduce this margin risk through its geographical, channel and product expansion strategies.

The Company has high dependency on the oil & gas segment for its order inflow. The organisation plans to mitigate the risk by increasing its focus on growing segments such as water, LNG and in other cryogenic application segments.

LTVL has a robust risk management framework in place and has taken several initiatives to mitigate the risk, viz.

- Global supply chain
- Consolidating after-market presence
- Market share gain strategies through geographical, product and channel expansions



Komatsu PC210-10MO Hydraulic Excavator – the truly efficient and fastest selling equipment in the construction segment in India

- Refining its product mix with focus on standard products
- Global manufacturing presence
- Enhanced contract manufacturing capacity

Outlook

The business is closely monitoring key demand indicators such as crude oil prices, capacity additions, liquidity, project capex spending and GDP trends in the relevant geographies. With vaccination drives across the globe and revival of industrial activity, the business expects demand indicators to revive. However, a potential second wave of Covid-19 and lockdowns will have an impact on immediate business prospects.

The business has also taken stock of advancements in the renewable and the energy sector in general. The diverse portfolio in terms of geography and industries is expected to be an advantage for the business in the years to come.

The market share gain through streamlined product-basket building, initiatives in geographical expansion, resilient supply chain, digitisation and a strengthened after-market team would help the business build a strong order book in the coming year and deliver the highest level of customer satisfaction.

With the revival of the oil prices, buoyancy in the non-oil sectors such as water, pharma, power, post-Covid recovery



KSM 403 Surface Miner – indigenously designed and manufactured by L&T for eco-friendly and sustainable mining in open cast projects.

and focused actions taken by LTVL, the outlook of the business remains positive.

CONSTRUCTION EQUIPMENT & OTHERS

Overview:

The Construction Equipment & Others (CE&O) business includes manufacture and marketing of construction equipment, mining equipment and equipment for the tyre industry, broadly segregated into Construction & Mining Machinery (CMM) and Rubber Processing Machinery (RPM). CMM further comprises the Construction & Mining Equipment business unit (CMB) and L&T Construction Equipment Limited (LTCEL), a wholly owned subsidiary of L&T.

The CMB division focuses on the distribution and after-sales service of hydraulic excavators and dump trucks manufactured by Komatsu India Private Limited (KIPL) and other mining and construction equipment manufactured by Komatsu worldwide. It is also responsible for the distribution and providing of after-sales support for a range of construction equipment including wheel loaders, compactors and hydraulic excavators manufactured by LTCEL and mining tipper trucks manufactured by Scania India. In addition, the division handles distribution and after-sales support for



L&T 1190 Soil Compactor gives reliable and efficient performance



L&T 9020 Wheel Loader deployed by Border Roads Organization to construct and upkeep strategic roads and border infrastructure

the equipment, viz. sand plants, surface miners, mobile crushers and apron feeders manufactured by L&T's Metallurgical & Material Handling business (MMH), Kansbahal, Odisha.

LTCEL, located in Doddaballapura, near Bengaluru, manufactures vibratory compactors, wheel loaders, hydraulic excavators, asphalt paver finishers, pneumatic tyred rollers, skid steer loaders, hydraulic power packs, cylinders, pumps and other components.

The RPM division, located in Kancheepuram near Chennai, manufactures and markets rubber processing machinery, i.e. mechanical and hydraulic tyre-curing presses, tyre-building machines, conveyor systems and tyre automation systems for the tyre industry globally.

The Product Development Centre (PDC), based at Coimbatore, renders engineering and product development support for the businesses under CMM and RPM.

Business Environment

Construction & Mining Machinery Business (CMM)

The investment in the construction and mining sectors is one of the key demand drivers of the CMM business.

During the year, highway construction activity increased as compared to the previous year, as the overall

contract-awarding activity improved during the year. However, the prolonged slowdown in real estate projects continues to weigh on the business.

In the mining sector, while coal production registered a degrowth of ~7% over the previous year, relaxations have been brought in the coal sector, such as the option of gasification of coal, captive use and sale in open market. This is in addition to the Government's approval for commercial coal mining as well as removing restrictions on end-use. These initiatives are likely to increase the coal mining activity in the coming years, which augurs well for the business.

The liquidity shortage, coupled with stiff competition from domestic and Chinese mining equipment manufacturers, has impacted growth opportunities to some extent.

Rubber Processing Machinery Business (RPM)

The demand for the machinery manufactured by this unit depends on tyre demand and is, in turn, linked to the fortunes of the automobile, agricultural and mining sectors.

Automobile Industry: Until September 2020, the automobile industry witnessed one of its sharpest declines in domestic sales due to subdued demand and consumer sentiments. Post- September 2020, the industry has witnessed sequential monthly growth in both 2-wheeler and passenger car segments.



L&T 2490 Pneumatic Tyred Roller is increasingly preferred by contractors to seal surfaces and achieve a smooth finish

Automobile Industry Global: 2020 was a year of downward growth for global auto markets. The global automobile industry is expected to see a rebound in 2021, driven by the higher sales of electric vehicles.

The agriculture and mining sectors were not impacted much during FY 2020-21. These two sectors saw significant month-on-month growth aided by a good monsoon and Government policies.

Tyre Industry: In line with the drop in automobile sales, the OEM tyre market also came down sharply by over 4% in 2020. The replacement tyre demand continued to be mostly flat and stable in some geographies, such as China, due to preference for personal mobility after the Covid-19 lockdown.

However, the global tyre industry investments were tepid in 2020, as most of the tyre majors had declared an investment holiday. The business unit is likely to see lower sales for machinery in the exports market, while the domestic sales is likely to be more robust in FY 2021-22.

The Indian tyre industry saw a capacity utilisation of near about 65% until September 2020. Due to the Government policy on restricted tyre imports from China and pick-up in demand for tyres, Q3 FY21 results of tyre companies were very encouraging, leading to a double-digit revenue growth compared to the many previous quarters. With demand



L&T ushered in mega mining with supply and commissioning of PC3000, Komatsu's first 300-ton Electrical Shovel in India, at South Eastern Coalfields Limited, Gevra Mines

pick-up, Indian industry has announced its clear intention to go ahead with the stalled investments across all sectors, barring PCR, which witnessed lower investment until end-2020.

As in the case of tractor and mining equipment, the off-the-road tyre category saw consistent growth throughout the FY and did not experience a major impact post-lockdown.

Major Achievements

Construction & Mining Machinery Business (CMM)

- 4 units of the 250 tonne 16 CuM largest Komatsu Electric Shovel PC3000 commissioned in India at SECL site
- Timely supply and erection and commissioning of 43 machines at various Coal India subsidiaries during the pandemic
- Komatsu PC210-M0 excavator became the fastest model in the industry to reach 1000 nos. of sale in a period of 13 months
- 1st HD785 dump truck deployed at Tata Steel crossed 60,000 hours of usage with 94% availability
- Major single order won from Tata Steel for indirect supply of dump trucks with maintenance contract



Scania G500 Mining Tipper is the new model introduced by L&T in India for transportation of overburden

Significant Initiatives

Construction & Mining Machinery Business (CMM)

During FY 2020-21, CMB introduced a slew of initiatives, keeping the customers' interests in mind. Innovative initiatives were launched during the year under Machine Care Programme (MCP) covering value-added services and extended power train warranty for various models. New machine attachments – such as super-long front arm with reach up to 21M, tunnelling attachment, pile driving attachment, breaker booms, mining breakers etc. – were also introduced. By ensuring availability of spares at customer sites, the availability guarantee of the machines has been maintained at the present levels of ~90%, thereby retaining customer confidence and increasing spares' sales.

CMB is collaborating with Komatsu to increase the local content in their 60T and 100T dump trucks for increased participation in government tenders. Talks are on with Komatsu to introduce machines with an electric drive. CMB has been educating customers on evaluating their purchases of equipment on the basis of lower life-cycle costs, quick serviceability, etc. This will help retain customers and overcome the competition.

Rubber Processing Machinery Business (RPM)

Initiatives introduced by the business include:

- A 'Technology Centre initiatives' cell is set up to discuss and initiate actions towards cost reduction, process and



62" Truck bus radial hydraulic tyre-curing press

product improvements for the tyre industry. 20 such initiatives were launched during the year.

- A B2B commerce platform 'e-RPM' implemented to handle customer enquiries and offers on-line.
- Induction-type platen heating system developed in tyre-curing presses towards commitment to the environment, which is likely to see good customer acceptance.

RPM is supportive of the National Employability Enhancement Scheme, a pioneering initiative of the Government, wherein it provides an opportunity for learning various skills on the job to many students immediately after the completion of their curriculum. This helps the nation at large in developing employable skilled workforce. RPM provided such opportunities of on-the-job training to more than 100 students during the year.

Digitalisation

The 'EQUIPCARE' app, implemented to serve the customers' post-sales service requirements has helped in achieving a Suraksha coverage ratio of above 90% since 2019. This app enables customers to access service information pertaining to their machines on their mobile devices.

A cloud-based CRM solution to offer end-to-end-digitalisation of the sales process has been introduced during the year. Under this system the entire activity of sales, right from customer enquiry till sales collection, is



Motorcycle radial tyre-building machine

captured for each order. The complete history of customer visits, orders finalised and orders lost is captured and tracked through this system. Dealer sales are captured through the DeManS application developed by CMB. During the year, the DeManS system was migrated to the latest user-interface technology, leading to increased speed and offering more user-friendly features.

Environment, Health and Safety

Safety audits are conducted regularly to ensure that the safety practices are in place and are being followed.

The manufacturing unit of RPM is certified in OHSAS under Integrated Management Systems. LTCEL has been certified for its Integrated Management System (Environmental Management systems as per ISO 14001:2004 and OHSAS 18001:2007 for Occupational Health and Safety Management systems).

Some good practices followed by the businesses are:

- The units took utmost care and all precautionary measures to contain the Covid-19 situation while resuming operations by:
 - Disinfecting the facility completely and periodically, including all the vehicles while entering
 - All the employees were subjected to health screening at the time of resuming plant operations

- Absenteeism also being monitored closely for Covid-related assistance
- Immunity-booster made available to everyone as part of the regular food
- Do's and Don'ts were communicated constantly to all employees
- The units conducted a fire safety audit and obtained the renewed license from Fire Department
- Conducted training for drivers on road safety and safe driving practices, and first-aid training to employees

Human Resources

The business has progressively built a team of committed professionals across its manufacturing plants and corporate offices. Emphasis on training and development of the workforce has been the focus area. Additionally, competency building programmes for leadership development and various engagement initiatives have been undertaken to sustain the employees' motivation and maintain a harmonious workplace.

RPM has been consciously working towards gender diversity by engaging female staff in the shop floor. RPM provided support to its employees and their families by supplying essential items during the Covid-19 pandemic. The beneficiaries were about 400 in number.



New-generation floor-mounted PCR hydraulic tyre-curing press



New-generation PCR hydraulic tyre-curing press

The industrial relations scenario has remained cordial at the manufacturing units. There were no cases of violations during the year under the whistle-blower policy or the policy on 'Protection of Women's Rights at Workplace'.

Risks and Concerns

Increased market competition and macro-economic volatility are continuing concerns for the business. High diesel prices could dampen the demand for construction equipment.

The increase in commodity prices has impacted the product cost. In the present market scenario, recovery from the customers on account of increase in commodity prices is challenging.

The business has been taking appropriate measures to de-risk / minimise the risk by hedging, increased value proposition being offered to customers, including in pricing, etc.

Outlook

Construction & Mining Machinery Business (CMM)

CMB plans to strengthen its position in the premium segment by increasing its focus on large contractors, large irrigation projects and coal OB (over burden) removal contractors. The Union budget FY 2021-22 proposes to invest about ₹ 1,110 Bn on road construction and ₹ 670 Bn

on Railways. With the above budget proposals, construction activity is expected to pick up pace during the coming year.

Government initiatives in infrastructure development in roads, railways, irrigation, ports, urban and rural infra, affordable housing, etc., are expected to drive demand in the cement and metal sectors, which, in turn, will boost demand for excavators, dump trucks, dozers and other road construction and mining equipment. With ~60% of demand for mining equipment coming from coal PSUs, CMB is planning to target selective tenders along with Komatsu.

In the parts and services segment, CMB plans to introduce newer and more innovative, user-friendly spares. Sales promotional schemes are being devised for motivating dealer engineers to enhance the parts business.

Rubber Processing Machinery Business (RPM)

As an aftermath of the Covid-19 pandemic, people may continue to observe social distancing norms even after the crisis has subsided, and that will change the way people commute. Daily commuters may prefer avoiding public transport and shared mobility might take a short-term hit. As a result, the demand for entry-level cars and two-wheelers might increase. However economic / market sentiments, consumer purchasing power and the willingness for spending could influence demand.



Integrated Command Control Centre, Jhansi

Further to the outbreak of the second wave of Covid-19, it is anticipated that there will be continued limitations for global travel, at least in the immediate future. Also, some tyre companies may prefer to source locally. Global tyre demand is also likely to remain low and tyre companies may not make any major fresh investments.

The domestic market is very buoyant, especially in sectors such as agri and mining, while a slow pick-up is expected in the commercial truck segment. The division has a great advantage as compared to its European competitors due to its vast product range across all segments and its being a global market leader in machinery in the off-the-road tyre segment in the agri and mining sectors. However, there is a tremendous price pressure due to competition and commodity prices. The division will continue to focus on spare parts and retrofit kits which will increase productivity to its customers at a minimal cost. Further, the joint development of machines by RPM with their clients, combined with service opportunities, is also being explored.

■ SMART WORLD & COMMUNICATION

Overview:

L&T Smart World & Communication (SW&C) is committed to making the world a 'smarter' place to live in and to enhance the quality of life through technology

and digital interventions. The business, as a Master System integrator, provides technical solutions and services in the areas of Safe, Smart, Communication and Digital Solutions. The business leverages its technical prowess to solve problems through smart, scalable solutions for security, urban services, traffic, transportation, utilities and digital connectivity.

The business has a diversified team of more than 800 IoT engineers, data scientists, domain experts, cyber security experts, project management and operations professionals who have successfully implemented various smart solutions and are maintaining operations in more than 25 cities in the country. The business has digitally enabled 13 states through various Government programmes and is focusing on further enhancing its services and solutions offerings.

The business has 3 major segments:

1. **Safe and Smart Cities:** Smart Cities, Smart Utilities, Public Safety, Critical Infra Security, Intelligent Traffic Management
2. **Communication & Telecom Infrastructure:** Wired & Wireless, i.e IP/MPLS backbones, DWDM (Dense wavelength division multiplexing), Wi-Fi, Radio communication like APCO, TETRA, Metro Communications, Early Warning Dissemination System, Next Gen Data Centres and Security Operation Centres



Integrated Command Control Centre for NDMC

3. Military Communication: Satcom System, Tactical Communication System, Network Management System, Secure Handsets

The business is further empowered by its Centre of Excellence and Solution Development Centre in Hyderabad, Technology Innovation Centre in Chennai, Smart City Skill Development Centres in Hyderabad and Kancheepuram and R&D Centre for Military Communication at Bengaluru.

Continuing its pursuit of technology and solutions, the business is working with global partners and is creating competencies to cater to opportunities in the areas of Energy Analytics, Edge-based Video Solution as Services and 5G and Cyber Security.

Business Environment

Citizen safety remains a major concern for the Government. Specific allocations for citizen safety under different State and Central Government programmes have presented an increase in the opportunity landscape for the business. While smart and safe cities and digital programmes continue to get focus from the Central and State Governments, the year saw slow progress in key project decisions and implementation, and many of the key projects were postponed or deferred due to Covid-19. The on-field progress of AMI roll-out and other projects were slow overall, due to the Covid-19 related restrictions through the year.

The first half of the year saw migrant resources returning to their states during the Covid-19 lockdown. Despite this, the business was able to maintain continuity, and the technicians deployed at the project sites operated the systems without any interruption. Their skills were upgraded with continuous training and ensured compliance with the SLAs.

Smart AMI metering projects continue to be a focus area. During the lockdown, technology became very relevant to ensure that Discoms continue to get remote meter readings and raise the electricity bills without the need for any person to individually visit households.

The business has taken a selective bidding approach and is focussing more on solution-centric projects. This change in strategy is to bring focus on the more profitable and sustainable opportunity landscape and rise up the value chain. With a focus on innovation and the ability to adapt to the dynamic business scenario, the business has been able to retain its position as the market leader.

Major Achievements

Key orders received during the year include:

- BharatNet Phase- II Active Electronics in Tamil Nadu, Package-C project through TANFINET
- Real Time Information System through Centre for Railway Information System for Indian Railways



Public Safety - Integrated Operations Centre, Cyberabad, and covers Hyderabad and Rachakonda as well.

Projects Completed

- Telecom System for the 1st Section of Bengaluru Metro, Phase 1 Extension
- The state-of-the-art Command and Control Centre for Jhansi Smart City Project
- Integrated Command & Control Centre of NDMC Smart City
- Successfully commissioned GSAT 20, GSAT 29 and GSAT 11 Satcom Projects for ISRO
- Telangana State Police Public Safety Integrated Operations Centre located at Cyberabad

Awards and Recognition

The business won various prestigious awards, including:

- The Golden Peacock Award 2020 for Innovation in recognition of the Artificial Intelligence based Crowd Management solution implemented in Prayagraj Smart City
- FICCI Smart Urban Innovation Award, bagged by Nagpur Smart City Communications Technologies and Physical Security

- Recognition for Exemplary Application of Technology by Private Sector was conferred for the Smart Solutions Deployed in Cities by CII
- Two RoSPA Gold Awards for Telecommunication Systems for Gujarat Metro Rail Corporation Limited and Allahabad Smart City

Significant Initiatives

The business successfully launched its own Solution Platform 'L&T Fusion' – an augmented Intelligence platform aimed at solving the problems of cities, law enforcement agencies and critical infra. This will help the business to transform into a thought partner for cities and law enforcement agencies through continuous problem-solving and leveraging IoT, AI and mobility technologies. L&T Fusion was successfully tested, deployed and commissioned for Nagpur Smart City and Raipur Smart City Projects.

The business, in collaboration with DRDO, developed an indigenous Mission Command & Control Software (In-House) for perimeter security. The business has also signed a strategic Transfer of Technology (ToT) with Centre for Development of Advanced Computing (CDAC) for TETRA technology.

The Technology Innovation Centre at Chennai, with a fully operational Command and Control Centre and a dedicated Data Centre was instrumental in breakthrough solutions which were deployed across the country.



Surveillance Camera Installed at Prayagraj

During the year, the business developed a strong cyber security resource pool to secure the cyber-physical connected ecosystem. The team has gained significant competence and provides services in areas of cyber defence, industrial & smart infra cyber security, cyber risk consulting, digital forensics and security operation centre.

The business has set up a state-of-the-art Tactical Communication Laboratory in Bengaluru where pioneering development in high-capacity radio relay, software defined radio, NMS, TETRA, IP-based intercom system and TCS projects are underway. This facility is also being used as proof-of-concept for various applications.

Enabling Technology to counter Covid-19

In these critical times, with the entire nation locked-down due to the pandemic, the business has been aiding the Government through its smart technological and innovative solutions across 20 cities, some of which are below:

- i. City Operations Centres (COCs) across all the smart cities were working as war rooms during the entire duration of the pandemic.
- ii. Variable Message Displays (VMDs), Public Address Systems (PAs), were efficiently used to spread awareness messages.
- iii. AI-based system monitored vehicle movement through cameras.

- iv. Mask-detection application: Based on AI, helping to track and enforce wearing of face masks while monitoring social distancing.
- v. Mobile-based app for the issue of a chatbot-based e-passes.
- vi. Crowd analytics across commissionerates to generate alerts on overcrowding.
- vii. m-governance app, developed for Vizag Smart City, empowered health workers to carry out house surveys.
- viii. In Tamil Nadu, the business is entrusted with hosting e-governance of 190 critical government applications.

Environment, Health and Safety

The business conducted approx. 200 EHS campaigns to raise awareness and to engage staff and workmen. These campaigns include various celebrations (Safety Month, Safety Day, etc.), competitions (quiz, poster, slogan, etc.), blood donations, tree plantations, etc. 19 external trainings were conducted through experts and health care professionals to educate on Covid-19, mental stress, personal hygiene, etc. The business completed 4.26 million safe man-hours during the year. 952 trainings were conducted, clocking over 17,159 training man-hours.

The inhouse digital application 'VIEW EHS' was effectively utilised to monitor, track and analyse EHS observations, safe



Command & Control Centre, Prayagraj

execution cards, trainings, audits, inspections, forms and other activities, resulting in an incident free year.

Human Resources

The business continues to attract expert technical talent and industry leaders in the areas of Safe, Smart and Communication domains.

As an employer of choice, the business has inducted young technical talent from leading campuses, such as IITs and NITs. 'Udaan' – the entry-level training and mentoring programme, has played a pivotal role in getting fresh graduate engineers ready to perform in diverse functional roles – design, project management and client-facing responsibilities.

The Covid-19 pandemic called for tremendous energy, innovation and resilience from project managers and site engineers. The 'Covid Heroes' programme showcased some of the star employees whose stellar contributions supported local and state governments in monitoring and managing the Covid-19 crisis, while ensuring the safety and well-being of staff.

Digitalisation provided an excellent opportunity, during the lockdown period, for employees to invest in their skill development. Experts across the Company shared their expertise through daily technical webinars on topics such as Cloud, Data Centre, Surveillance, Cyber, Network Security, GIS, Broadband, TETRA, Platform, etc. As part

of development plans, over 150 employees achieved technical certifications in areas such as Cyber Security, Cloud Computing, Networking, Data Science, Project Management, etc. Leadership mentors helped shape careers and provide developmental opportunities for high-potential talent.

Risks and Concerns

Despite projects being adequately funded through Union and State Budget allocations, the cash crunch at the state level due to Covid-19 relief measures may result in delays in receivable realisation. As deferred payment contracts result in increase in working capital requirements, the business has been relentlessly following up with Government authorities for better payment terms and has been successful in the majority of cases.

With most projects now successfully completed and in the operation and maintenance phase, ensuring optimal performance as per the contractual norms is crucial to avoid penalties. Fully digitised centralised and dedicated support for all the operational projects for maintenance of SLAs with contractual tie-ups with the OEMs has been established.

The uncertainties and delays expected in global sourcing due to the Covid-19 lockdowns may affect project implementation schedules. The team has taken proactive steps in terms of engagement with its wide-ranging vendor ecosystem to mitigate the risks.



GSAT11 & GSAT20 Ground Stations, Ahmedabad

The operational risk of skilled resource shortage due to reverse migration is mitigated through the deployment of trained technicians from the dedicated Skill Development Centre and Centralised Operation & Maintenance structure.

The business continues to face diversified competition mostly due to the varied portfolio across domains. In some cases, new entrants are creating market disruptions. Another challenge being faced by the business is that of Government flagship projects being awarded to PSUs or going with limited tenders amongst PSUs. As part of Go-To-Market, strategic partnerships are being pursued.

The business has robust Enterprise Risk Management in place, with a dedicated expert team. The Risk Management Policy is periodically updated, and training is provided to project teams on capturing and monitoring the implementation risks involved.

Outlook

With the scope of the Bharatnet programme to cover 2.20 lakh gram panchayats with high-speed broadband through optical fibre / radio / satellite, the scope for electronics for this programme provides good opportunity. Further, due to the increase in the data usage and requirement of data localisation / hosting, and with the adoption of digital platforms and the work-from-home scenario, Data Centre opportunities are expected to increase. As a consequence, the need to have a robust cyber-security system to manage and mitigate threats also increases. The associated

opportunities in Industrial / Enterprise IoT Cyber Security and Cyber Defense are expected to emerge over the coming years.

The Government is continuously investing in overall safe and smart urban infrastructure, focussing on surveillance, ITMS, ICCC and e-governance related applications. The funds allocated for the modernisation of the police force and the Nirbhaya Funds will increase opportunities in the safe city segment.

Integrated Command Control Centres (ICCC) have significantly contributed during the Covid-19 situation, through unique solutions, in managing city operations, and the need of them has been acknowledged and appreciated by various Government bodies. Another 25 cities are planning for ICCCs, thus creating opportunities in this area.

The successful deployment of the in-house solution platform 'L&T-Fusion', with its pre-canned domain-use cases, has created the gateway to a new opportunity landscape in the areas of Video Solutions and Edge-based Analytics. The solution suite will help the business tap into enterprise and global opportunities in the areas of public safety, smart cities and mobility.

During the lockdown, the Smart AMI ensured that Discoms get remote meter readings and raise the electricity bills without the need for any person to individually visit households, additionally reducing the AT&C losses. The



Smart Worker Solution

Smart Meter Programme has a layout of 1.5 lakh crore for the next 5 years.

The increase in allocation for space technology and space applications which will expand business prospects of ISRO-led opportunities are being pursued by the Military Communication segment.

Robust communication systems to strengthen the defence sector is another focus area for the Government. Specific allocation has been made towards establishing a dedicated countrywide secure multi-service and multi-protocol converged next-generation network for the defence services. Combined with the Government's thrust on 'Make in India', these areas provide significant opportunities over the coming years.

■ DIGITAL BUSINESSES

'Others' business also includes the new digital businesses incubated by the Company, as below. These ventures are part of L&T's plan to adopt digital technologies to future-proof its businesses and to tap future growth opportunities. These are being nurtured ground-up and are expected to become highly value accretive for L&T when they get into commercialisation and scale up in a couple of years.

L&T NxT

L&T-NxT leverages the Group's deep industry domain expertise, leading-edge information technology capabilities

and the invaluable learning from the digital transformation of their own diverse businesses to deliver disruptive digital outcomes for its global customers.

L&T-NxT offers products, solutions and platforms leveraging new-age and emerging digital technologies like Artificial Intelligence, Machine Learning, Industrial IoT, Augmented & Virtual Reality, Geospatial Engineering Services and Edge Cybersecurity. Services range from technology solution architecture design, systems integration, end-to-end platforms and managed services for core industries, such as Energy & Utilities, Transportation & Logistics, Process & Discrete Manufacturing and Engineering & Construction.

During the year, L&T-NxT focused on building the organisational structure and the strategies for reaching out to market and also for productising the digital solutions. Building capabilities and transition of the L&T Digital team to orient to a market-focused sales organisation has been the key focus area. However, business development efforts and reach-out to potential customers, especially in the US and Europe, were hampered due to the pandemic.

EduTech

With a strong pedigree of skilling and learning and development programmes, L&T is poised to expand its skilling initiatives targeting a larger audience, especially the youth, to offer an integrated platform spanning skilling to recruitment, leveraging L&T's inherent expertise and strengths in core engineering, manufacturing, technology

and its pioneering efforts in digitalisation. L&T EduTech is a business formed to develop the EdTech Platform and offer EdTech products and solutions to educational institutions, skilling bodies, working professionals, students and learners across segments.

The platform is at the incubation stage, and involves developing an integrated online portal to cover business offerings, viz. industry-led application-oriented courses for engineering students to improve their employability, vocational courses, national certification for engineers and assessment of skills for future employability. The business completed the work on the first Minimum Viable Product (MVP) phase with the content creation for reinforced learning, vocational courses, development of assessments and development of platform to support all these activities. The commercial launch of the platform is expected next year.

SuFin

Leveraging its strong brand salience and leadership, L&T is well-placed to enter the e-commerce marketplace on the

strength of its relationships with suppliers, SMEs and the supply chain ecosystem at large.

SuFin is a B2B industrials ecosystem which will provide a platform for SME buyers and sellers (mainly focused on construction and industrial products and services) to connect in an efficient manner, thereby enabling sellers to expand their sales reach, and for buyers to find the optimal products and services at optimal cost and quality. The logistics partners on the platform would enable efficient delivery and fulfilment in a timely, cost-effective manner with strong SLA compliance. In this B2B marketplace initiative, financial services companies will also participate on the platform and will provide attractive financing options to the platform users.

During the year, key activities, viz. platform development with various features / sub-features, on-boarding sales, marketing and operations teams, creating SOPs, KYC checks of the participants, catalogue uploading, partnerships for logistics, payment gateway and other preparatory work has been undertaken. The commercial launch of the platform is expected in the ensuing financial year.